

**WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
MEMORANDUM**

TO: Solvay Minerals Green River Soda Ash Plant File

56-037-00005

THROUGH: Dan Olson, Administrator
Bob Gill, Compliance Program Manager
Tony Hoyt, District Engineer (TH)

FROM: Carl Disel, Air Quality Engineer CLD

SUBJECT: Semi-Annual Inspection Report

DATE: February 5, 2001

I performed the FY'2001 Semi-Annual Inspection of Solvay's Green River Soda Ash Operations on January 22, 2001. I observed driving into the facility a single massive steam plume produced by the combined operating units at the facility. The steam plume dispersed into the low ceiling clouds.

I signed in at Solvay's main office and was met by Dolly Potter one of Solvay's Environmental Engineers. Dolly and I proceeded to her office for a pre-inspection discussion. I started the discussion by providing a copy of the FY'2000 Annual Inspection Concerns and Solvay's response to the concerns made in a letter dated November 17, 2000. I explained to Dolly that I felt Solvay's response to the inspection concerns was adequately addressed in the November 17, 2000 letter and said I intended adding the concerns and Solvay's response to the concerns to this Semi-Annual Inspection Report.

Dolly and I next discussed Solvay's Title V permit testing requirements. In Solvay's FY'2000 Annual Inspection Report I recommended that Solvay request a waiver for the particulate emissions testing of the small baghouses and bin vents AQD #79 (0.84 lb/hr), AQD #81 (0.50 lb/hr), AQD #92 (0.3 lb/hr), AQD #93 (0.17 lb/hr), AQD #94 (0.3 lb/hr), and AQD #95 (0.1 lb/hr). I explained to Dolly that the Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 3 Draft Operating Permit (Clean Air Act Title V) would require performance tests for the small New Source Performance Standards (NSPS) Subpart 000 baghouses and bin vents in accordance with WAQSR Chapter 6, Section 2 (j). I further explained that under (NSPS) WAQSR Chapter 5, Section 2 (h)(ii) "Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard;" Dolly said that Solvay was preparing a waiver request for the small baghouses and bin vent testing to the attention of the Administrator. Dolly said Solvay intended to demonstrate compliance by performing Method 9 observations in accordance with the Subpart 000

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procedures.

I next asked Dolly if there were any other issues she wished to discuss. Dolly said the recent increases in the cost of natural gas had forced Solvay to evaluate alternative fuel sources for their various fuel fired sources. Dolly asked if I knew of any coal fired sources recently permitted by the Division and what control devices were utilized for Best Available Control Technology (BACT). I told Dolly I was not aware of any recently permitted coal fired sources but that I would check with the Division's permitting section and find out. I discussed this issue with Bernie Dailey the Division's New Source Review Manager. Bernie said the Division had not recently permitted any coal fired calciners or dryers.

After completion of our discussion I explained to Dolly that for this Semi-Annual Inspection I wanted to inspect Solvay's Ambient Monitoring System and record the operating data for the units operating.

To Inspect the Ambient Monitoring System I was introduced to Stan Cook an Environmental Technician with Solvay. Stan is responsible for the Ambient Monitoring System. Stan suggested we drive around to the different PM-10 Hi-Vol samplers. The first PM-10 Hi-Vol samplers I inspected were the downwind co-located sites 2A and 2B. Also present at the site was a PM-2.5 sampler. Stan said the PM-2.5 sampler was not being operated at this time. The next PM-10 Hi-Vol sampler I inspected was the upwind site #1. A PM-2.5 sampler was also present at the site but was also not being operated. All the PM-10 Hi-Vol samplers were found to be in good condition.

We returned to the office after inspecting the Ambient Monitoring System and I met with Tim Brown another one of Solvay's Environmental Technicians. Tim provided me with the operating data for the units operating (1/22/01).

The AQD #48 Calciner 3 was processing approximately 125 Tons Per Hour (TPH).

The new AQD #80 Calciner 4 was processing approximately 209 TPH.

The AQD #15 Dryer 1 was processing approximately 43 TPH.

The AQD #15 Dryer 2 was processing approximately 61 TPH.

The AQD #51 Dryer 5 was processing approximately 72 TPH.

The AQD #32 Dryer 4 was processing approximately 25 TPH.

The AQD #18 Boiler 1 was producing approximately 226,089 pounds of steam.

The AQD #19 Boiler 2 was producing approximately 242,424 pounds of steam.

The Continuous Opacity Monitor (COM) for AQD #48 was recording 0.6%; the COM for AQD #80 was recording 5.5%; the COM for AQD #51 was recording 3.4%; the COM for Boiler 1 was recording 4.0%; and the COM for Boiler 2 was recording 1.9%.

The Continuous Emission Monitor (CEM) for Boiler 1 was recording 0.013 lb/MMBtu SO₂;

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and 0.603 lb/MMBtu NO_x. The CEM for Boiler 2 was recording 0.015 lb/MMBtu SO₂; and 0.591 lb/MMBtu NO_x.

The new "D" train AQD #80 Calciner began operation on January 17, 2001. Tim said they had experienced problems with the Calciner and continued operation was uncertain at this time. Tim also said they had started the new "D" train AQD #82 Dryer but had to shut it down due to problems with its operation.

PREVIOUS AIR QUALITY CONCERNS:

From the FY'2000 Annual Inspection Report (July 20, 2000):

1. The Division reviewed stack tests for the AQD #25 (Alkaten Crusher) and AQD #26 (Alkaten Dryer) performed on April 30, 2000 and May 1, 2000 by AIRTECH Environmental Services. The testing was performed to demonstrate compliance with Chapter 6, Section 2 Construction Permit CT-1416 particulate emission limits while the process ran at an increased production rate. The Division authorized the increased production rate from the permitted 24 TPH to as high as 36 TPH with a Temporary Waiver issued January 21, 2000.

The test results DID NOT show compliance with Permit CT-1416 particulate emission limits. AQD #25 tested at an average for the three 135 minute test runs at 1.46 lb/hr, 146% of the allowable (1.0 lb/hr). The production rate was maintained at 42 TPH which is higher than allowed by the temporary waiver (36 TPH). AQD #26 tested at an average for the three 135 minute test runs at 0.782 lb/hr, 142.2 % of the allowable (0.55 lb/hr). The production rate was also maintained at 42 TPH for the AQD #26 tests and also exceeds the production rate allowed by the temporary waiver.

Solvay should be required to explain why the 36 TPH production rate allowed by the Temporary Waiver was exceeded during the stack testing and provide a corrective action plan detailing steps to insure the baghouses do not exceed their respective particulate emission limits for the planned re-testing of the baghouses on September 18, 2000.

SOLVAY RESPONDED TO THIS CONCERN (November 17, 2000):

The Division noted in The Report that the Alkaten stack testing conducted on April 30 and May 1, 2000 was conducted at a higher production rate than noted in the Temporary Waiver, and that testing did not show compliance. A "capacity test" of the Alkaten Production Line was requested of The Division on January 19, 2000. Although the expected increased production rate was not documented in the request, through conversation with the Division, a rate of 36 tpy was noted in the Temporary Waiver issued January 21, 2000. It is difficult to determine the actual effect a debottlenecking project will have on the production rate. The April 7, 2000 notification of the stack test schedule to the Division stated a production goal of "approximately 36 or 40 tpy".

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A production rate of 42 tph was achieved during the capacity test, with stack testing conducted at this rate. Although stack testing did not show compliance with the existing emission rates, it was not due to the increased production rate. As explained in the June 7, 2000 correspondence to The Division, the stack test samples were contaminated due to dusty conditions inside the crusher building where the stack test portals are located. Subsequent stack testing has been conducted at increased production rates, and shows compliance with the existing emission rates. These results are being sent to The Division under separate cover.

Solvay regrets the confusion surrounding the capacity test production rate, and will attempt to more clearly define these types of variables in the future. A permit application will soon be submitted to the Division to request an increase in the production rate of the Alkaten product line.

Airtech Environmental Services Inc. performed particulate emission tests on September 20 and September 29, 2000 for the Alkaten Crusher Baghouse AQD #25 and the Alkaten Dryer Baghouse AQD #26. The purpose of the testing was to demonstrate compliance with permit CT-1416 particulate emission limits at increased production rates. CT-1416 set particulate emission limits for AQD #25 at 1.0 pound per hour (lb/hr) and AQD #26 at 0.55 lb/hr and limited the production rate to 24 tons per hour (TPH).

The tests showed the Alkaten system can be operated at nearly twice the permitted production rate while maintaining compliance with the permit CT-1416 particulate emission limits. Stack testing was performed on the Alkaten Crusher Baghouse AQD #25 at a production rate of 44 TPH and particulate emissions were reported at 0.15 lb/hr, 15 percent of the allowable. Stack testing was performed on the Alkaten Dryer Baghouse at a production rate of 43 TPH and particulate emissions were reported at 0.29 lb/hr, 53 percent of the allowable.

Solvay requested a temporary waiver to increase the production rate of AQD #25 and AQD #26 December 13, 2000. The temporary waiver request included the waiver application. The waiver application is presently being reviewed by the Division.